

which 180 linear miles of traverse work has been done ; this is in hilly but fairly open country ; and 13 square miles have been traversed in the Váda taluka also.

RECESS MAPPING.

68. Thána District, 19 sections.—Fair drawn on the 8-inch = 1 mile scale for reproduction at Poona.

Poona District, 6 sections.—A contoured map of Singhar hill fort fair drawn on the 8-inch scale for reproduction.

A revised and extended index map for the Northern Circle.

Sholápur District, 53 sections of 16-inch work.—Fair drawn for reproduction.

69. The Superintendent reports that all his Assistants worked in an able and steady manner, and their assistance was most valuable ; and the Conservator must remark that Colonel Hutchinson has co-operated most readily with the Forest Officers, and has done his best to meet all the requirements of forest management in the production of forest maps, which evidence very careful and skilful work, and will be of the highest service in the preparation of working plans for placing the forests under methodical management, for the maintenance and improvement of their capabilities, for supplying timber and other forest produce including grass and grazing.

B.—WORKING PLANS.

70. The Working Plans division was in charge of Mr. T. B. Fry, Deputy Conservator of Forests, 2nd grade, throughout the year. The lines on which the work of this division was carried on were the same as explained in former reports, and the following statement will show the progress of such work during the year :—

No.	Range.	Total Area.	Number of Blocks per Range.	Number of Compartments actually laid out in 1891-92.	Average Area of Compartments actually laid out.	REMARKS.
<i>North Thána Division.</i>						
1	Máhim	81,843	41	36	42	
2	Bassein	51,230	23	23	51	
3	Sálsette	14,441	10	16	34	
4	Váda	80,568	33	50	59	
5	Dáhánu	107,351	45	56	58	
6	Umbargaon	23,008	12	18	46	
	Total	358,441	164	199	52	
	Total during 1890-91	358,441	165	105	* 54	Average area of normal compartment is 54 acres. * Average area of normal compartment.
<i>South Thána Division.</i>						
1	Kalyán	32,178	16	18	43	† The difference in the total area is due to the transfer of two ranges, Karjat and Khálápur, from South Thána to Kolába Division, and to some extent to the rectification of area against Mokháda.
2	Murbád	71,712	20	20	51	
3	Bhiwndi	46,099	20	21	45	
4	Mokháda	40,190	16	3	56	
5	Khárdi	149,366	52	80	53	
6	Sháhápur					
	Total	† 339,545	124	142	50	Average area of normal compartment is 60 acres.
	Total during 1890-91	393,822	143	109	† 69	† Average area of normal compartment.

71. The two forest divisions of Thána have, as heretofore, claimed the attention of the Divisional Forest Officer, Working Plans, to a far greater extent than any other division of the Northern Circle ; 442 compartments were thus actually laid out on the ground by the erection of 1,132 cairns and 32,112 stones during the year, covering an area of 17,949 acres at a cost of Rs. 1,566 or Rs. $3\frac{1}{2}$ per compartment, as shown in the statement given below :—

No.	Division.	Range.	Number of Compartments.	Cairns.	Stones.	Aggregate Area of Compartment.	Cost.	Average Cost per Compartment.	Average Cost per Acre.	REMARKS.	
1	North Thána ..	Váda	50	222	3,892	2,957	250 4 10	5 1 1	0 1 4		
		Umbargaon ..	18	54	1,528	836	76 1 6	4 3 8	0 1 5		
		Dáhánu ..	56	204	5,041	3,250	247 15 0	4 6 10	0 1 3		
		Májapin ..	36	150	2,250	1,529	148 7 0	4 1 11	0 1 7		
		Bássan ..	23	7	1,828	1,271	72 11 6	3 2 7	0 0 11		
2	South Thána ..	Sásette ..	16	31	861	540	50 15 0	3 2 11	0 1 6		
		Bhíwandi ..	21	18	1,796	951	66 9 6	3 2 9	0 1 1		
		Kalyán ..	18	82	2,055	766	82 6 0	4 9 2	0 1 9		
		Murbád ..	20	76	2,186	1,015	103 8 0	5 2 7	0 1 7		
		Sháhpur ..	80	271	8,267	4,274	67 7 0	4 7 6	0 1 4		
3	Poona ..	Mokháda ..	3	6	214	167	12 2 0	4 10 8	0 1 2		
		Bábul Blocks ..	101	11	2,194	393	97 14 0	0 15 6	0 4 0		
			Total ..	442	1,132	32,112	17,949	1,566 0 4	3 8 9	0 1 5	
			Total during 1890-91 ..	214	583	16,516	10,911	808 0 9	3 12 5	0 1 2	

72. In the Poona division Bábul Reserves to the extent of some 16,000 acres, worked under a provisional scheme prepared by Mr. Wroughton, were also dealt with by the Working Plans division. The teak forests about Singhar and Donja near Khadakvásla were also inspected by Mr. Fry, in order to obtain a clear idea of their nature, extent and distribution over the hill sides, with a view to the preparation of working plans in respect of them.

73. No work was performed in the Sátára division by the field establishment of this branch, but Mr. Fry made a tour of inspection in the Warna and Koina valleys to ascertain the general character, distribution, &c., of the forests along the Ghát line, and to form an opinion as to the practicability and utility, from a forest point of view, of opening out roads, the ultimate object of such roads being to open out the country generally, and to serve as export roads for forest produce at the same time, and he has reported that it is doubtful whether any considerable expenditure could be justified, as the timber-yielding capabilities of all the forests which would be tapped are very low at present, and that for protective purposes, on the other hand, these forests cannot be too highly valued, and unfortunately they are much too limited in extent to fully protect the head waters of the two rivers.

74. The following work was performed during the rainy season by the establishment of the Working Plans branch :—

- (a) Mounting of a large number of village maps required for use in conjunction with Topographical Block Maps.
- (b) Working out areas and marking out on each village map all the compartments in the Bhiwandi range.
- (c) Printing Block number, &c., for each of the Bhiwandi Blocks.
- (d) Drawing Compartment Index Map of the foregoing to show the general outline of each compartment.
- (e) Entering on 4 inch scale map all compartments laid out in the previous season in the two Thána divisions, showing any corrections or modifications of each finally passed as correct on the Block Maps.
- (f) Re-scaling of a number of Block Maps of Mokháda, Dáhánu, Umbargaon, &c., and the revision work of the Bábul Blocks in the Poona division.

75. Mr. Fry, as usual, delivered a series of lectures to the students of the Forest Class at the College of Science, Poona, during the rainy season of 1891, on the elements of Forestry and the Forest Act.

76. The total expenditure of the Working Plans division during the year amounted to Rs. 19,705 against Rs. 16,619 in the year preceding. Looking at the results of working as a whole, the operations have undoubtedly been executed more economically during the year than in the previous year, the average cost per compartment being Rs. 3-8-9 against Rs. 3-12-5. The average cost per acre is pretty nearly the same, with the exception of the Bábul Blocks in the Poona

division, where the number is large and the area small, and the cost of laying them out was not commensurate with their size.

77. The Divisional Forest Officer, Working Plans, reports that both the Divisional Forest Officers of North and South Thána rendered him most efficient aid in testing the work of the Field Establishment, not only by seeing that the work on the ground corresponded with the coupe maps, but also by satisfying themselves that the several compartments had been properly located in accordance with the natural features of the ground, as depicted on the Topographical Maps, and that although such an inspection entailed additional work on the Divisional Forest Officers, still a better check was, no doubt, kept upon the work of Field Establishment, than could have been done by the Working Plans Officer, single-handed.

CHAPTER III.

PROTECTION AND IMPROVEMENT.

1.—ESTABLISHMENTS.

78. Proposals for re-organizing the Forest Service in order to supply the recognized deficiency in the numerical strength of the establishments, chiefly by providing for the gradual development of indigenous agency, were submitted in October 1890, by the Government of India for the consideration of Her Majesty's Secretary of State for India, whose sanction to it was received by the Government of India on the 26th February 1891, and was published in this Presidency in Government Resolution No. 5685, dated 18th August 1891, in the Revenue Department. The revision scheme divides the superior forest service into two branches :—

First, the Imperial Forest Service of India to be recruited solely by officers directly appointed by the Secretary of State for India; and

Second, the Provincial Forest Service to be recruited entirely in India.

But effect was not given to this scheme during the year, and consequently there was no change in the controlling staff of the Forest Department, Northern Circle, which consisted of 1 Conservator of Forests and 13 Deputy and Assistant Conservators of Forests as in the year before. Some of these officers were absent on leave as under :—

Mr. R. C. Wroughton, Deputy Conservator of Forests, 1st Grade, and Divisional Forest Officer, Poona, on privilege leave for three months, granted to him in Government Resolution No. 1478, dated 27th April 1891, Financial Department.

Mr. H. W. Keys, Deputy Conservator of Forests, 4th Grade, and Divisional Forest Officer, Panch Maháls, on privilege leave for three months, sanctioned under Government Resolution No. 2631, dated 24th July 1891, Financial Department.